

Ryks Instituut voor de Volksgezondheid Utrecht , 29 th November 1951

UTRECHT

Holland

Dear professor Lederberg

I received your letter of November 12 . I understand very well you want Mr Zinder to finish his work before giving out the strains.

May I have the favor of discussing the following question with you?

In a meeting of the Netherlands Society of Microbiology in Brussels in April 1950 I have exposed how phage types can be characterised by the phages they produce. Here I have suggested the following hypothesis for the Nature of bacteriophage.

Doerr expresses himself as follows in the "Handbuch der Viruskrankheiten". If lysogenicity seems to belong to the species characters of many bacteria this is more in favor of an endogenic than of an exogenic origin of transmissibles lysines".

Lysogenicity is indeed a species character; if we will give the "phage types" the value of biological species.

Now phage is certainly a parcel of genetic material, and as Pirie has shown for Bact. Megatherium the phage corpuscles produced by a given strain are adsorbed by elements in the lysogenic culture , and disappear as infectious bodies from the culture. Parcels of genetic material in the form of bacteriophage are exchanged between the cellular elements.

I have expressed my opinion as follows in the report which has appeared in the Nederlands Tydschrift voor Geneeskunde 1950, IV, October, page 2946...

" Bacteria and bacteriophage are a biological unit; bacteria possess like all other living beings a change of generation: the second morphological form, wherein the bacteria are represented genetically is the bacteriophage. Accepting this theory the meaning of phage typing appears altered; instead of a subdivision of bacteria as to an accidental sensitivity to a parasite , here, as everywhere in biology the behaviour and the individuality of the change of generation comes forward as a characteristic for classification"

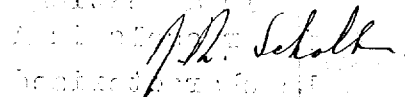
The questions are: is there a possibility, that lysogenic phage is(derived from ) the filtrable FA agent you demonstrated? Can you prove it is not ?

I have proof that we have to be very careful to consider the phage we have in hands as multiplied on a sensitive organism identical to the original parcel of genetic material as produced by the strain.

I have worked out this idea and explained other new facts from this viewpoint. If you are interested in these purely theoretical considerations, I will be glad to send them to you. I am quite conscious, however, that experimental work and not theoretical considerations will bring light in this question.

I am looking forward very much for your answer.

Yours respectfully



R. Th. Scholtens